2.2/69

$x^2 + kx + 25 = 0$ has only 1 soln

1.1
1.4
2.1
2.2
2.5
3.1

$$x = \frac{-k \pm \sqrt{k^2 - 4(1)(25)}}{2(1)}$$

$$k^2 - 4(1)(25) = 0$$

$$k^2 - 100 = 0 \Rightarrow (k-10)(k+10) = 0$$

$$k^2 = 100$$

$$k = 10, -10$$

$$k = \pm 10$$

Factor $2x^2-5x+3$

$2*3=6$

$1\cdot 6$	7
$2\cdot 3$	5

$(2x-3)(1x-1)$

mult $\Rightarrow 3$ or 2

multiply to give me 2 or 3

Finish the quadratic formula

1#

$x^2-4x+2=0$

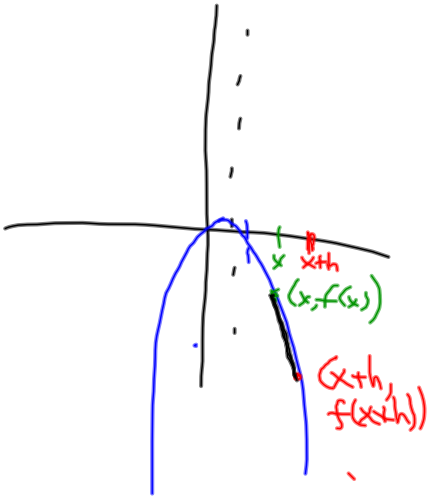
$$x=\frac{-(-4)\pm\sqrt{(-4)^2-4(1)(2)}}{2(1)}$$

$$=\frac{+4\pm\sqrt{16-8}}{2}=\frac{4\pm\sqrt{8}}{2}$$

3.1) 39) $f(x) = x - x^2$

$x(1-x)$

$x = 0, x = 1$



$$m = \frac{f(x+h) - f(x)}{(x+h) - x}$$

$f(x) = x - x^2$

$f(x+h) = (x+h) - (x+h)^2$

$$= \frac{f(x+h) - f(x)}{h}$$

$$= \frac{\left[(x+h) - (x+h)^2\right] - \left[x - x^2\right]}{h}$$

$(x+h)^2 = (x+h)(x+h)$

$x^2 + hx + hx + h^2$

$x^2 + 2hx + h^2$

$$= \frac{\left[(x+h) - (x^2 + 2hx + h^2)\right] - x + x^2}{h}$$

$$= \frac{x + h - x^2 - 2hx - h^2 - x + x^2}{h}$$

$$= \frac{-2hx + h - h^2}{h}$$

CANCEL common FACTORS NOT common TERMS

$$= \frac{h(-2x + 1 - h)}{h}$$

$$= -2x + 1 - h$$

3.1/41

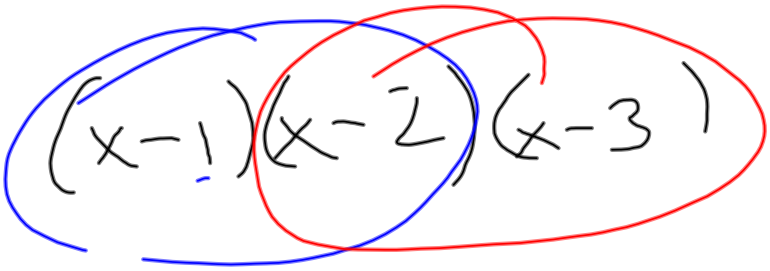
$f(x) = \sqrt{x}$

$f(4) = \sqrt{4}$

$f(4+5) = \sqrt{9} = \sqrt{4+5}$

$$\frac{f(x+h) - f(x)}{h} = \frac{\sqrt{x+h} - \sqrt{x}}{h}$$

$$\frac{\left(\sqrt{x+h} - \sqrt{x}\right)}{\left(h\right)} \frac{\left(\sqrt{x+h} + \sqrt{x}\right)}{\left(\sqrt{x+h} + \sqrt{x}\right)}$$



$$x^2-2x-x+2$$

$$(x^2-3x+2)(x-3)$$

$$\begin{array}{r} x^3 \\ -3x^2 \\ -3x^2 \quad +9x \\ +2x \quad -6 \\ \hline x^3-6x^2+11x-6 \end{array}$$

4) $\frac{x^2-2x-3}{x+1} > 0$

$x^2-2x-3=0$

$(x-3)(x+1)=0$

$x=-1,3$

$x+1=0$

$x=-1$

$x=-1,3$